

1 WHAT IS CLAIMED IS:

2 1. (Cancelled) An arrangement of a tool insertable into the mouth of a
3 house for the care and maintenance of teeth while providing
4 protection of soft tissue within the mouth of the horse and comprising
5 in combination:
6 an electric rotary motor having a means to hold said tool along the axis
7 of rotation of said motor, said tool having a tooth cutting surface of
8 a preselected size and shape;
9 a shaft having one end mounted to said cutting surface and the other
10 end attachable to said motor holding means thereby supplying
11 rotational motion to said tool;
12 a shaft support means through which said shaft may be removably
13 inserted;
14 a hand piece having a channel through which said shaft support means
15 is removably insertable; and,
16 a cutting surface guard fabricated as a portion of said hand piece and
17 shaped to be in encircling relation about a selected portion of said
18 cutting surface thereby exposing only a portion of said cutting
19 surface under the condition of said shaft support means, having
20 said shaft inserted therein, is mounted within said shaft support
21 channel of said hand piece and said shaft engaged within said
22 holding means thereby allowing a user of the arrangement to guide
23 said hand piece containing the partially guarded tool into the
24 mouth of the horse to separate said soft tissue from a preselected
25 portion of a tooth with said cutting surface guard and position the
26 unguarded portion of said cutting surface against a tooth to remove
27 a selection portion of said tooth by means of said tool in rotary
28 motion.

29

- 1 2. The arrangement defined in claim 1 wherein said shaft support
2 means further comprises a bearing mounted at a preselected position
3 within said shaft support means and a bearing seal mounted at a
4 position between said bearing and said cutting surface through which
5 said shaft may be inserted and supported for rotary motion without
6 binding.
7
- 8 3. The arrangement defined in claim 2 further comprising a brass sleeve
9 mountable around said shaft under the condition of said shaft being
10 inserted through said bearing and bearing seal into said shaft
11 support means, said brass sleeve providing separation between said
12 shaft and said shaft support means.
13
- 14 4. (Cancelled) The arrangement defined in claim 1 further comprising a
15 flexible shaft having one end adaptively mountable to said motor
16 thereby supplying rotational motion to said flexible shaft and the
17 other end having a means to hold said tool along the axis of rotation
18 of the flexible shaft thereby separating said motor from said tool so
19 that said motor may be supported at a position remote from said tool.
20
- 21 5. (Cancelled) The arrangement defined in claim 1 further comprising
22 preselected sized and shaped extended guards mountable to said
23 cutting surface guard to provide additional separation between said
24 cutting surface and said soft tissue within the mouth of the horse.
25
- 26 6. (Cancelled) The arrangement defined in claim 1 wherein said hand
27 piece further comprises an orifice formed near said cutting surface
28 and a second channel one end in communication with said orifice,
29 the other end adapted to be removably attachable to a vacuum source
30 whereby the dust and debris created by the removal of a selected

1 portion of a tooth may first enter said orifice and then said second
2 channel to be sucked out of the mouth of the horse and deposited
3 into said vacuum source.
4

5 7. The arrangement in claim 2 wherein said shaft support means further
6 comprises gearing means mounted within said shaft support means
7 and in communication with said shaft to change the rotational
8 motion of said shaft attached to said motor holding means into
9 reciprocating motion which may be applied to said cutting surface
10 mounted on said shaft remote from said gearing means.
11

12 8. The arrangement in claim 2 wherein said shaft support means further
13 comprises gearing means mounted within said shaft support means
14 and in communication with said shaft to change the profile of the
15 shaft by a preselected angle thereby increasing the range of
16 placement of said cutting surface of said tool.
17

18 9. (Cancelled) The arrangement in claim 4 wherein said adaptive
19 mounting of said flexible shaft is to a motor owned by the user.
20

21 10. (Cancelled) The arrangement in claim 4 wherein said means to hold
22 said tool is a handle owned by the user, said flexible shaft having
23 means to adaptively mount said handle on the end of said flexible
24 shaft under the condition of said shaft mounted within said handle.
25

26 11. (Cancelled) The arrangement in claim 4 further comprising a clutch
27 mounted with one end in communication with said motor and
28 another end remote from said motor in communicated with said
29 flexible shaft thereby providing interruptible transmission of motion

1 from said motor to said cutting surface in communication with said
2 flexible shaft.

3

4 12. The arrangement in claim 11 wherein said clutch further comprises
5 means to adjust the threshold of torque at which said motion is
6 interrupted.

7

8 13. The arrangement in claim 12 further comprising a clutch housing
9 mountable to said motor thereby enclosing said clutch and having a
10 mounting to retain one end of said flexible shaft in communication
11 with said clutch, said clutch housing having an means for access by
12 the user to the means to adjust the torque.

13

14 14. (Cancelled) The arrangement in claim 1 wherein said hand piece and
15 guard are fabricated from aluminum.

16

17 15. (Cancelled) The arrangement in claim 14 wherein the exposed
18 surfaces of said aluminum are anodized.

19

20 16. An electric motor powered arrangement insertable into the mouth of
21 a horse for the care and maintenance of equine teeth while providing
22 protection of soft tissue within the mouth of the horse and
23 comprising in combination:

24 a tool having a tooth material removal surface;

25 a shaft having a first end mounted to said tool and a second end
26 attachable to said electric motor whereby said tooth material
27 removal surface has a powered motion;

28 a hand piece fabricated with an internal shaft channel;

29 a bearing support sleeve;

- 1 at least one bearing mounted within said support sleeve at a
2 preselected position whereby said bearing accepts the insertion of
3 said shaft through said bearing thereby exposing the end of said
4 shaft remote from said tooth removal surface, said bearing support
5 sleeve mounted with said internal shaft channel whereby said
6 exposed end of said shaft is attachable to said electric motor, said
7 bearing providing support for said shaft under the condition of said
8 tooth material removal surface tool being guided into contact with a
9 preselected tooth and pressed against the tooth until a preselected
10 portion of the tooth is removed while said tooth material removal
11 surface is under powered motion;
- 12 a protective shield fabricated as part of said hand piece at a
13 preselected position and shaped to expose a preselected portion of
14 said tooth material removal surface of said tool retained within said
15 hand piece, said exposed portion guided into contact with a
16 preselected portion of the tooth whereby the remaining non-exposed
17 surface is separated from other portions of the horses mouth
18 including said soft tissue; and,
- 19 a sleeve mountable over said shaft within said shaft hand piece
20 whereby said sleeve provides additional bearing means between said
21 shaft and said hand piece without binding.
- 22
- 23 17. The arrangement defined in claim 16 wherein said bearing support
24 sleeve means further comprises a bearing mounted at a preselected
25 position within said bearing support sleeve and a bearing seal
26 mounted at a position between said bearing and said cutting surface
27 through which said shaft may be inserted and supported for rotary
28 motion without binding.
- 29

- 1 18. The arrangement defined in claim 16 further comprising a flexible
2 shaft having one end adaptively mountable to said motor thereby
3 supplying rotational motion to said flexible shaft and the other end
4 having a means to hold said tool along the axis of rotation of the
5 flexible shaft thereby separating said motor from said tool so that
6 said motor may be supported at a position remote from said tool.
7
- 8 19. The arrangement defined in claim 16 further comprising preselected
9 sized and shaped extended guards mountable to said cutting
10 surface guard to provide additional separation between said cutting
11 surface and said soft tissue within the mouth of the horse.
12
- 13 20. The arrangement defined in claim 19 wherein said extended guard
14 further comprises an orifice formed near said cutting surface and a
15 vacuum channel one end of which is in communication with said
16 orifice, the other end of said vacuum channel adapted to be
17 removably attachable to a vacuum source whereby the dust and
18 debris created by the removal of a selected portion of a tooth may
19 first enter said orifice and then said channel to be sucked out of the
20 mouth of the horse and deposited into said vacuum source.
21
- 22 21. The arrangement in claim 16 wherein said bearing support sleeve
23 further comprises gearing means mounted within said bearing
24 support sleeve and in communication with said shaft to change the
25 rotational motion of said shaft attached to said motor holding means
26 into reciprocating motion which may be applied to said cutting
27 surface mounted on said shaft remote from said gearing means.
28
- 29 22. The arrangement in claim 16 wherein said bearing support sleeve
30 further comprises gearing means mounted within said bearing

1 support sleeve and in communication with said shaft to change the
2 profile of the shaft by a preselected angle thereby increasing the
3 range of placement of said cutting surface of said tool.
4

5 23. The arrangement in claim 18 wherein said adaptive mounting of
6 said flexible shaft is to a motor owned by the user.
7

8 24. The arrangement in claim 18 wherein said means to hold said tool is
9 a handle owned by the user, said flexible shaft having means to
10 adaptively mount said handle on the end of said flexible shaft under
11 the condition of said shaft mounted within said handle.
12

13 25. The arrangement in claim 18 further comprising a clutch mounted
14 with one end in communication with said motor and another end
15 remote from said motor in communicated with said flexible shaft
16 thereby providing interruptible transmission of motion from said
17 motor to said cutting surface in communication with said flexible
18 shaft.
19

20 26. The arrangement in claim 25 wherein said clutch further comprises
21 means to adjust the threshold of torque at which said motion is
22 interrupted.
23

24 27. The arrangement in claim 26 further comprising a clutch housing
25 mountable to said motor thereby enclosing said clutch and having a
26 mounting to retain one end of said flexible shaft in communication
27 with said clutch, said clutch housing having an means for access by
28 the user to the means to adjust the torque.
29

- 1 28. The arrangement in claim 16 wherein said hand piece and guard are
2 fabricated from aluminum.
3
- 4 29. The arrangement in claim 28 wherein the exposed surfaces of said
5 aluminum are anodized.